REMARKS

Applicants respectfully acknowledge and thank Examiner Yaen for the telephone discussion regarding the subject application on May 30, 2006, during which Patent Agent Joan Harland requested clarification of the status of the case. Specifically, the Office Action dated April 24, 2006 was marked "non-final" on form PTO-326, but at page 9 was referred to as a "final" office action. Examiner Yaen said that the last office action was non-final, and that he would send an official communication to that effect. That official communication was mailed from the U.S. Patent and Trademark Office on June 1, 2006, and confirmed that the last office action was non-final.

IN THE CLAIMS

Independent Claim 31 has been amended to claim with greater clarity and particularity the subject matter regarded by the Applicants as their invention -- in the preamble, in method step (e), and by modifying one proviso and by adding another proviso.

1. Preamble

The preamble of Claim 31 has been amended to point out with more particularity and clarity that the cell adhesion site comprises an amino acid sequence selected from a Markush group

of **entire** amino acid sequences, thereby eliminating any possible interpretation that the site could comprise a **fragment** of the listed amino acid sequences: "wherein said site's amino acid sequence comprises an amino acid sequence selected from **the group consisting** of SEQ ID NOS: 10 and 98-103. . . ." Support for that amendment is found in the Specification at the least at page 7, lines 20-22:

> **Preferably that site** [on MN proteins to which vertebrate cells adhere] **comprises an amino acid sequence selected from the group consisting of SEQ ID NOS: 10 and 97-106.**

[Emphasis added.]

Also for greater clarity and particularity, the two redundant phrases in claim 31, lines 5-9 that recite the sequence of the proteoglycan-like domain (SEQ ID NO: 50), within which the cell adhesion site is located, have been deleted.

2. Method Step (e)

Method step (e) of Claim 31 has been amended to clarify that the methods of invention include an active step, requiring the specific identification of **working** embodiments:

> (e) if said organic or said inorganic molecule inhibits the adhesion of said vertebrate cells to said MN protein or to said MN polypeptide, identifying said molecule as specifically binding to said site;. . . .

Support for that amendment is provided in the Specification at the least at page 7, lines 6-9, which reads:

> The therapeutic use of organic or inorganic molecules, preferably organic molecules, is disclosed. Preferred such molecules bind specifically to a site on MN protein to which vertebrate cells adhere in a cell adhesion assay, **wherein said molecule when tested in vitro inhibits the adhesion of cells to MN protein.**

[Emphasis added.] Further support is found in the specification at page 21, lines 15-21; at page 21, line 31 to page 22, line 5; at page 62, lines 10-31; at page 68, lines 1-20, particularly lines 1-4; at page 69, lines 26-30; and at page 75, lines 3-5 **(original Claim 1)**.

3. Provisos ("Wherein" Clauses)

For increased particularity and clarity, step (e) of Claim 31 has been further amended. The first "wherein" clause of step (e) has been amended to point out that, in addition to the requirement that the MN protein or MN polypeptide is bound by the M75 Mab, the **cell adhesion site** of the MN protein **must also be specifically bound by the M75 Mab**. Support for that amendment is found in the Specification at the least in Example 2 entitled "Identification of MN's Binding Site" at page 62, lines 29-32, which read: "**[T]he binding site of MN was determined to be closely related or identical to the epitope for**

Mab M75, at least 2 copies of which are located in the 6-fold tandem repeat of 6 amino acids [aa 61-96 (SEQ ID NO: 97)] in the proteoglycan-like domain of MN protein." [Emphasis added.] Further particular support for that amendment can be found at least at page 5, lines 26-30; at page 21, lines 4-7; at page 69, lines 8-9; and at page 69, line 31 to page 70, line 3.

As a result of that first amendment to the wherein clause of claim 31(e), the phrase "wherein said MN protein or said MN polypeptide" has been repeated in that "wherein" clause for reasons of clarity and particularity. Also for greater clarity and particularity, that same "wherein" clause has been further amended to indicate that the MN protein or MN polypeptide "is encoded by a nucleotide sequence selected from the group consisting of" -- rather than "encoded by a nucleic acid whose nucleotide sequence is selected from the group consisting of. . . ."

A second proviso has been added to the end of Claim 31 for greater clarity and particularity, said second proviso reading: "and wherein if said MN protein or said MN polypeptide is a fusion protein or a fusion polypeptide, the non-MN portion of said fusion protein or said fusion polypeptide does not contain a cell adhesion site." Support for that amendment can be found at least at page 21, lines 1-14, wherein the use of fusion proteins in the cell adhesion assays is described; and at

page 69, lines 8-13, wherein the lack of utility of the fusion protein GST-MN in the cell adhesion assay is attributed to the presence of a second cell adhesion site in the non-MN (GST) portion of the fusion protein.

Misconceptions concerning the identity of MN's binding site in Zavada et al., Int. J. Oncol., 10: 857 (1997) [cited herein as "Zavada et al. (1997)"] arose from the nature of the MN-GST fusion protein used. The Specification corrects the misconceptions concerning the identity of MN's binding site in Zavada et al. (1997). For example, the Specification at page 69, lines 8-13 reads:

> There can be no doubt on the specificity of cell attachment to purified MN/CA IX+. It is abrogated by specific MAb M75, at a dilution 1:1000 of ascites fluid. **This is a correction to our previous report in Zavada et al., Int. J. Oncol., 10: 857 (1997)** in which we observed that MN/CA IX produced by vaccinia virus vector and fusion protein GST-MN support cell adhesion, but **we did not realize that GST anchor itself contains another binding site, which is not blocked by M75.**

[Emphasis added.] The Specification teaches that if a MN fusion protein is used in a cell adhesion assay, that the non-MN portion of the fusion protein needs to be tested to assure that it does not contain a cell binding site, or that if the non-MN portion of the fusion protein contains a cell binding site, that

said site must be blocked. Otherwise, the assay, as that of Zavada et al. (1997), would not have utility.

Applicants respectfully submit that no new matter has been entered by the above amendments to the pending claims, and respectfully request entry of the above amendments and reconsideration of the claims as amended.

I. 35 U.S.C. Section 102(b) Rejection

Claims 31-32, 34, 37, 39 and 41 stand rejected under 35 U.S.C. Section 102(b) as "being anticipated by Zavada *et al* [Int. J. Oncology, 10: 857-863 (1997)] . . . for the reasons of record." [Office Action, section 5, page 2.] Applicants respectfully traverse, relying not only upon the arguments in their responses dated June 12, 2003, June 8, 2005, and February 2, 2006 [hereinafter cited as "the earlier responses"], but also respectfully submitting that the distinctions between the claimed assays and the assay described in Zavada et al., Int. J. Oncol., 10: 857-863 (1997) [hereinafter cited as "Zavada et al. (1997)"], pointed out in the earlier responses are highlighted with more particularity and clarity by the above amendments to Claim 31, the only independent pending claim.

As the Manual of Patent and Examining Procedure (MPEP) states in § 2131 at page 76:

TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM

> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, . . . 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). . . . "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The first element missing in the assay of Zavada et al. (1997) that is present in the claimed assays is the ability to identify a molecule that specifically binds to MN's cell adhesion site, thereby inhibiting adhesion of cells to said site on MN. Because of the unrecognized binding site in the non-MN portion of the fusion protein used in Zavada et al. (1997), the assay of Zavada et al. (1997) could never identify any molecule that binds to MN's cell adhesion site, even if the molecule as, for example, the M75 monoclonal antibody (the M75 MAb), actually does bind to MN's binding site and inhibits adhesion of cells to the MN protein. In the assay of Zavada et al. (1997), no molecule could be identified as binding to MN's cell adhesion site, since even if MN's site were blocked, cells would still bind to the unrecognized binding site on the non-MN (GST) portion of the MN fusion protein used.

Applicants have amended independent Claim 31 to point out specifically that if a MN fusion protein/polypeptide is used in the assay that the non-MN portion cannot contain a cell adhesion site. The Zavada et al. (1997) assay does not have that element of such a MN fusion protein, since the non-MN portion of the MN-GST fusion protein used contains a cell binding site. As clearly pointed out in the Specification (as detailed in the above Remarks), the MN fusion protein with a non-MN cell binding site used in Zavada et al. (1997) is the reason that the Zavada et al. (1997) assay cannot identify a molecule that binds to MN's cell adhesion site. Zavada et al. (1997) in missing that important element of the claimed assays cannot anticipate the claimed assays.

The inoperability of the Zavada et al. (1997) assay to identify molecules that bind to MN's binding site as a distinction from the claimed assays is highlighted by Applicants' amendments to independent Claim 31 that respond to the Examiner's statements at page 5 of the Office Action concerning the claims lacking an "active step" to identify working embodiments. Claim 31 has been amended to point out with more particularity and clarity the subject matter regarded by the Applicants as their invention by amending the first part of section (e) of Claim 31 to a clearly "active step":

> (e) ~~identifying whether~~ **if** said organic or said inorganic molecule inhibits the adhesion of said vertebrate cells to said MN protein or to said MN polypeptide, **identifying said molecule as** [[by]] specifically binding to said site;. . . .

Applicants respectfully point out that patent case law is clear that for a reference to be prior art under 35 USC 102(b), the references must be enabling.[1] As Zavada et al. (1997) does not enable the claimed assays to identify molecules that bind to MN's cell adhesion site and inhibit cells from binding to said site, Zavada et al. (1997) cannot anticipate the instant invention. [Please see footnote 1, supra.] As explained in detail and graphically in the earlier responses,

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1. The Federal Circuit stated in Chester v. Miller, 15 USPQ2d 1333, 1336 n.2 (Fed. Cir. 1990): "To be prior art under section 102(b) the reference must put the anticipating subject matter at issue into the possession of the public through an enabling disclosure." [*See also* Mehl/Biophile International Corp. v. Milgraum, 47 USPQ2d 1248, 1254-55 (D. N.J. 1998), *aff'd*, 52 USPQ2d 1303 (Fed. Cir. 1999); Bristol-Myers Squibb Co. v. Ben Venue Laboratories, Inc., 58 USPQ2d 1508 (Fed. Cir. 2001) ("To anticipate, the reference must . . . enable one of skill in the art to make and use the claimed invention."); Paperless Accounting, Inc. v. Bay Area Rapid Transit System, 231 USPQ 649, 653 (Fed. Cir. 1986) ["[A] § 102(b) reference 'must sufficiently describe the claimed invention to have placed the public in possession of it.' . . . '[E]ven if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling.' . . . The basis for this rule is found in the description requirement of § 102(b)."]

Zavada et al. (1997) cannot identify a single molecule that binds specifically to MN's cell adhesion site.

Further, Zavada et al. (1997) mistakenly identifies the M75 monoclonal antibody ("Mab M75") as NOT binding to MN's cell adhesion site. Zavada et al. (1997) then teaches away from and disables ones of skill in the art from understanding a key concept underlying the claimed invention, that is, that MN's cell adhesion site is "closely related or identical to the epitope for Mab M75. . . ." [Specification, page 62, lines 29-30.] Claim 31 has been amended to highlight the close relationship or identity of MN's cell adhesion site with the epitope for Mab M75 by specifying that the cell adhesion site is itself specifically bound by the Mab M75. Zavada et al. (1997) cannot then anticipate the claimed methods in that Zavada et al. (1997) teaches that the Mab M75 does not bind to MN's cell adhesion site.

Zavada et al. (1997) did not identify any compound that inhibits cell binding to MN protein, and incorrectly reports that the Mab M75 is a compound that does not inhibit the adhesion of cells to the MN protein. Zavada et al. (1997) then implies that MN's cell adhesion site was nowhere near the Mab M75's epitope. The skilled artisan would not know from Zavada et al. (1997) whether any molecule could be found that inhibits cell binding to the MN protein.

As Applicants explained in the earlier responses dated June 8, 2005 and November 9, 2005, the GST portion of the GST-MN fusion protein had its own cell adhesion site. Therefore, the MN portion of the GST-MN fusion protein in Zavada et al. (1997) may or may not have had a cell adhesion site. Without knowledge of the exact location of the cell adhesion site of the MN protein, one of skill in the art could not know from Zavada et al. (1997) whether a particular "MN protein or MN polypeptide" encoded in whole or in part by SEQ ID NO: 1 could be used to screen for compounds that would inhibit cell binding to the MN protein. One of skill in the art would also not deduce from Zavada et al. (1997) that the epitope of the Mab M75 would be useful in the screening method of the instant invention.

Applicants respectfully conclude that Zavada et al. (1997) does not anticipate the claimed invention. Applicants respectfully request that the Examiner reconsider and withdraw the instant 35 U.S.C. § 102(b) rejection in view of the amendments to the claims and the above explanations.

II. 35 U.S.C. Section 103(a) Rejection

Claims 31-32, 34, 37, 39 and 41-42 stand rejected "under 35 USC § 103(a) as being obvious over *Zavada et al.* [Int. J. Oncology, 10: 857-863 (1997)] . . . for the reasons of

record." [Office Action, Section 6, page 5.] Applicants respectfully traverse, relying not only on their arguments in their earlier responses, but also respectfully submitting that the above amendments to the only pending independent claim, Claim 31, highlight with more particularity and clarity the differences between the assay of Zavada et al. (1997) and the claimed assays, and how Zavada et al. (1997) clearly teaches away from the claimed methods.

As pointed out above and in the earlier responses, Zavada et al. (1997) teaches away from the assays of this invention in a number of material respects. The Manual of Paent Examining Procedure (MPEP) at § 2144.05 (III) states:

> A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, . . . 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).

Zavada et al. (1997) teaches away from a very material aspect of the claimed assays, highlighted with particularity and clarity in the above amendments to Claim 31, that is, that MN's cell adhesion site is specifically bound by the M75 Mab. Zavada et al. (1997) teaches away from that significantly material aspect of the invention by reporting that the M75 Mab did not abrogate cell binding to MN's cell adhesion site. In so reporting, Zavada et al. (1997) further led away from the identity of the MN's cell adhesion site, which as disclosed in

the instant Specification is "closely related or identical to the epitope for Mab M75. . . ." [Specification, pages 62, lines 29-30.] Applicants respectfully conclude that any *prima facie* case of obviousness is rebutted by the indicated teaching away by Zavada et al. (1997) of the essence of the claimed invention.[2]

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2. In In re Gurley, 31 USPQ2d 1130 at 1131-32 (Fed. Cir. 1994) the court noted:

> A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. See United States v. Adams, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966) ('known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness'); W.L. Gore & Assoc., Inc. v. Garlock, Inc., . . . 220 USPQ 303, 311 (Fed. Cir. 1983) (the totality of a reference's teachings must be considered), *cert. denied*, 469 U.S. 851 (1984); In re Sponnoble, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969) (references taken in combination teach away since they would produce a 'seemingly inoperative device'); In re Caldwell, 319 F.2d 254, 256, 138 USPQ 243, 245 (CCPA 1963) (reference teaches away if it leaves the impression that the product would not have the property sought by the applicant).

The Specification identifies the epitope for the M75 Mab to be within the proteoglycan-like domain of the MN protein, and states at least at page 50, lines 18-24:

> Exemplary peptides representing . . . [the M75 Mab] epitope depending on the context may include the following peptides from that tandem repeat: EEDLPS (**SEQ ID NO: 10**; aa 62-67); GEEDLP (**SEQ ID NO: 98**; aa 61-66; aa 79-84; aa 85-90; aa 91-96); EEDL (**SEQ ID NO: 99**; aa 62-65; aa 80-83; aa 86-89; aa 92-95); EEDLP (**SEQ ID NO. 100**; aa 62-66; aa 80-84; aa 86-90; aa 92-96); EDLPSE (**SEQ ID NO: 101**; aa 63-68); EEDLPSE (**SEQ ID NO: 102**; aa 62-68); and DLPGEE (**SEQ ID NO: 103**; aa 82-87, aa 88-93).

[Emphasis added.] Zavada et al. (1997) in teaching away from the identity of the M75 Mab's epitope being "closely related or identical to the epitope for Mab M75 . . ." [Specification, page 62, lines 29-30] cannot anticipate or render obvious the claimed invention. Applicants respectfully point out that

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[See also Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 885, 45 USPQ2d 1977, 1984 (Fed. Cir. 1998) ("General skepticism of those in the art--not amounting to teaching away--is also 'relevant and persuasive evidence' of nonobviousness. Gillette Co. v. S.C. Johnson & Son, Inc. . . . (Fed. Cir. 1990). In effect, 'teaching away' is a more pointed and probative form of skepticism expressed in the prior art. In any case, the presence of either of these indicia gives insight into the question of obviousness."); and Baxter Int'l, Inc. v. McGaw, Inc., 149 F.3d 1321, 1328 (Fed. Cir. 1998) (quoting In re Gurley, supra and noting that "a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought. . . .").]

Zavada et al. (1997) cannot anticipate or make obvious **that the MN protein's cell adhesion site** is located in the proteoglycan-like domain, comprises an amino acid sequence selected from the group consisting of SEQ ID NOS: 10 and 98-103, and **is specifically bound by the M75 Mab,** which blocks cell adhesion to MN protein.

Applicants further respectfully point out that the above amendments to Claim 31 address the Examiner's point made in the top paragraph of page 6 of the Office Action that the claimed methods

> only require identification of molecules, and does not require specific determination of whether the molecule is capable of specifically inhibit adhesion adhesion of cell binding as being operative (i.e. block or not block). . . . In other words, there is no active step that requires the specific identification of working embodiments. . . .

As discussed above, Claim 31 has been amended to provide such an active step in step (e) which as amended reads:

> if said organic or said inorganic molecule inhibits the adhesion of said vertebrate cells to said MN protein or to said MN polypeptide, identifying said molecule as specifically binding to said site. . . .

Zavada et al. (1997) tested only two isolated compounds (the M75 Mab and acetazolamide) for inhibition of NIH3T3 cell binding to the GST-MN fusion protein; neither compound worked. There was nothing in Zavada et al. (1997) to indicate that **any** working

embodiments of molecular inhibitors of cell binding to MN protein existed. As detailed above and in the earlier responses including a graphic, the assay of Zavada et al. (1997) could not identify any molecule that would inhibit the adhesion of vertebrate cells to MN protein/polypeptide.

The instant invention concerns the location and sequence of the MN cell adhesion site, its identity or close relationship with the epitope for the M75 Mab, and the use of MN proteins/polypeptides that comprise MN's cell adhesion site in methods to identify compounds that specifically bind to the cell adhesion site of MN protein. As explained in detail in the earlier responses and above, Zavada et al. (1997) teaches away from the most material aspects of the instantly claimed invention. For the reasons explained above, Zavada et al. (1997) cannot anticipate or render obvious the instantly claimed invention. Applicants respectfully request that the Examiner reconsider the instant 103(a) rejection in view of the above amendments and remarks, and withdraw the instant rejection.

III. 35 U.S.C. Section 112, First Paragraph Rejection

Claims 31-37, 39, and 41-42 stand

> rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. . . . The written description in this case has only set forth a peptide sequence which consists

> of or comprises the sequence of SEQ ID NO: 50 or the sequence of 10 and 98-103, and therefore the written description is not commensurate in scope to the claims that read as a peptide sequence which consists of or comprises a sequence of SEQ ID NO: 1, 10, or 98-103 as claimed.

[Section 7 of Office Action; passage bridging page 6 to top of page 7; emphasis in original.][3] The Examiner then indicates in

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3. Applicants respectfully point out that throughout Section 7 of the Office Action, the Examiner mistakenly includes SEQ ID NO: 50 (the proteoglycan-like domain), or SEQ ID NO: 1 (cDNA nucleotide sequence of the MN gene), in the list of amino acid sequences representing the claimed cell adhesion site of the MN protein [e.g., in the Office Action in the passage beginning at the bottom of page 6; at the top of page 7; page 7, first full paragraph; and at page 7, second paragraph.] Applicants respectfully point out that in unamended Claim 31, SEQ ID NO: 50 was recited only to identify the proteoglycan-like domain of the MN protein with greater clarity and particularity: "wherein said site is within MN's proteoglycan-like domain, **the amino acid sequence of MN's proteoglycan-like domain being that of SEQ ID NO: 50**. . . .". [unamended Claim 31; emphasis added.] MN's proteoglycan-like domain [SEQ ID NO: 50] is about 59 amino acids in length [aa 53-111]. On the other hand, as claimed in Claim 31 and supported in the Specification, MN protein's cell adhesion site is identical or closely related to the epitope of the M75 Mab, and SEQ ID NOS: 10 and 98-103 are representations of that epitope. The Mab M75 epitope is a relatively short amino acid sequences lying within the proteoglycan-like domain. For clarity and particularity, the amino acid sequence for the proteoglycan-like domain [SEQ ID NO: 50] has been deleted from Claim 31.

Again SEQ ID NO: 1 is the cDNA nucleotide sequence encoding the MN protein and then cannot be an amino acid sequence exemplifying the M75 Mab epitope. Applicants respectfully footnote the corrections concerning the mistaken inclusions of SEQ ID NOS: 1 (cDNA) and 50 (proteoglycen-like domain) in the Office Action to clarify the record.

the bottom sentence of page 8 of the Office Action "that applicant may overcome this rejection by amending the claims to recite comprising 'the amino acid sequence'."

Applicants respectfully submit that they would amend Claim 31 to read "wherein said site's amino acid sequence comprises [[an]] the amino acid sequence selected from SEQ ID NOS: 10 and 98-103 . . ." as suggested by the Examiner, but are concerned that said "the" would render the "amino acid sequence" it modifies with an ambiguous antecedent. Would that "amino acid sequence" modified by "the" be "said site's amino acid sequence," when "said site's amino acid sequence comprises" said amino acid sequence?[4]

Therefore, instead Applicants have respectfully amended Claim 31 to address the 112, first paragraph rejection to read in its first paragraph that "said site's amino acid sequence comprises an amino acid sequence selected from **the**

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4. As indicated a number of times in the response, the Specification discloses in Example 2 entitled "Identification of MN's Binding Site" that "the binding site of MN was determined to be closely related or identical to the epitope for MAb M75. . . ." [Specification, page 62, lines 29-30.] The Specification further points out at least at page 50, lines 18-24, that "[e]xemplary peptides representing . . . [the M75 MAb] epitope" include SEQ ID NOS: 10 and 98-103. Then the Specification teaches that MN's cell adhesion site is not "the amino acid sequence" of any of the exemplary peptides representing the M75 MAb epitope, but could comprise one of those exemplary peptides of SEQ ID NOS: 10 and 98-103.

group consisting of SEQ ID NOS: 10 and 98-103. . . ." Applicants respectfully submit that that formal Markush group language addresses the Examiner's concern that "a fragment as small as two amino acids . . ." [Office Action, page 7] from within the listed amino acid sequences could be meant.[5] However, Applicants remain respectfully open to alternative claim language with the equivalent intended meaning.

Applicants respectfully conclude that the invention as disclosed in the Specification as identified above and in the earlier responses [and with specificity for the claim phrase that is the subject of the instant rejection] was well within the Applicants' possession at the time the instant application was filed. Applicants respectfully request that the Examiner reconsider the instant 35 USC 112, first paragraph rejection in

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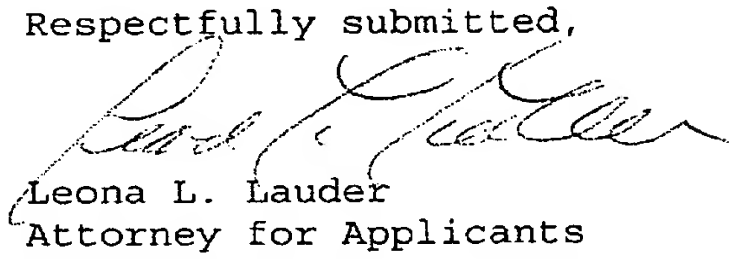
5. Applicants respectfully submit that the standard Markush claim language of Claim 31 (amended or unamended) inherently refers to the **full-length amino acid sequence** of one of a group of SEQ ID NOS rather than to amino acid sequences of fragments derived from the SEQ ID NOS. For example, using the search function for patent terms on the USPTO website [http://patft.uspto.gov/netahtml/PTO/search-bool.html], a total of 2,217 patents were found with claims that use that phrase recited in unamended Claim 31, but only **one** patent found that qualifies the amino acid sequence as "full-length" (i.e., "a **full-length** amino acid sequence selected from. . . ."; see Claim 1 of US Patent No. 6,852,832). However, for greater clarity and particularity, the pertinent phrase in Claim 31 of the instant application has been amended to read, "amino acid sequence selected from **the group consisting of**. . . .". According to the USPTO website, that phrase has been allowed in the claims of 2,055 patents.

view of the above amendments and remarks, and withdraw this rejection.

CONCLUSION

Applicants respectfully conclude that the claims as amended are in condition for allowance, and earnestly request that the claim amendments be entered, and that the claims be promptly allowed. If for any reason the Examiner feels that a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to telephone the undersigned Attorney for Applicants at (415) 981-2034.

Respectfully submitted,



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